

in which:

R_1 is a CN or methyl or a halogen atom;

R_2 is $S(O)_nR_3$ or 4,5-dicyanoimidazol-2-yl or haloalkyl;

R_3 is alkyl or haloalkyl;

R_4 represents a hydrogen or halogen atom; or a radical NR_5R_6 , $S(O)_mR_7$, $C(O)R_7$ or $C(O)OR_7$, alkyl, haloalkyl or OR_8 or a radical $N=C(R_9)(R_{10})$;

R_5 and R_6 independently represent a hydrogen atom or an alkyl, haloalkyl, $C(O)$ alkyl or $S(O)_rCF_3$ radical; or R_5 and R_6 may together form a divalent alkylene radical which may be interrupted with one or two divalent hetero atoms[, such as] selected from the group consisting of oxygen [or] and sulphur;

R_7 represents an alkyl or haloalkyl radical;

R_8 represents an alkyl or haloalkyl radical or a hydrogen atom;

R_9 represents an alkyl radical or a hydrogen atom;

R_{10} represents a phenyl or heteroaryl group optionally substituted with one or more halogen atoms or [groups such as] moieties selected from the group consisting of OH, -O-alkyl, -S-alkyl, cyano [or] and alkyl;

R_{11} and R_{12} represent, independently of each other, a hydrogen, [or] halogen atom, CN or NO_2 ;

R_{13} represents a halogen atom or a haloalkyl, haloalkoxy, $S(O)_qCF_3$ or SF_5 group;

m, n, q and r represent, independently of each other, an integer equal to 0, 1 or 2;

X represents a trivalent nitrogen atom or a radical $C-R_{12}$, the other three valencies of the carbon atom forming part of the aromatic ring;

with the proviso that, when R_1 is methyl, either R_3 is haloalkyl, R_4 is NH_2 , R_{11} is Cl, R_{13} is CF_3 and X is N; or R_2 is 4,5-dicyanoimidazol-2-yl, R_4 is Cl, R_{11} is [CL] CL, R_{13} is CF_3 , and X is C-Cl.

Claims 2-20, line 1 of each, please change "Collar" to --The collar--.

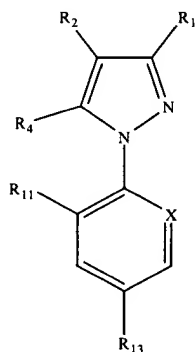
Claim 11, line 2, please delete "chosen among the group consisting of"

Claim 11, lines 5-6, please delete "with $n=0$ and R_3 is CF_3 , and $n=1$ and R_3 is ethyl."

Claims 12 to 17, line 2 of each, after "%" please insert --by weight-- and please change "substance" to --agent--.

Claim 18, line 2, please delete "or external device"

21. (Twice Amended) [Method] A method for eliminating fleas and ticks from a pet[s] to ensure more than six months of efficacy of greater than 95% against fleas, as determined in a test providing the reinfestation of the pet with 100 ± 10 fleas, and more than three months of efficacy of greater than 90% against ticks, as determined in a test providing the reinfestation of the pet with 50 ± 3 ticks, comprising attaching to the pet[s] a collar [at least one external device] having a matrix into which is incorporated [a] from 0.1 to 40% by weight, relative to the collar, of an active agent against fleas and ticks, this active agent comprising at least one compound corresponding to formula I below



in which:

R_1 is a CN or methyl or a halogen atom;

R_2 is $S(O)_n R_3$ or 4,5-dicyanoimidazol-2-yl or haloalkyl;

R₃ is alkyl or haloalkyl;

R₄ represents a hydrogen or halogen atom; or a radical NR₅R₆, S(O)_mR₇, C(O)R₇ or C(O)OR₇, alkyl, haloalkyl or OR₈ or a radical N=C(R₉)(R₁₀);

R₅ and R₆ independently represent a hydrogen atom or an alkyl, haloalkyl, C(O)alkyl or S(O)_rCF₃ radical; or R₅ and R₆ may together form a divalent alkylene radical which may be interrupted with one or two divalent hetero atoms[, such as] selected from the group consisting of oxygen [or] and sulphur;

R₇ represents an alkyl or haloalkyl radical;

R₈ represents an alkyl or haloalkyl radical or a hydrogen atom;

R₉ represents an alkyl radical or a hydrogen atom;

R₁₀ represents a phenyl or heteroaryl group optionally substituted with one or more halogen atoms or [groups such as] moieties selected from the group consisting of OH, -O-alkyl, -S-alkyl, cyano [or] and alkyl;

R₁₁ and R₁₂ represent, independently of each other, a hydrogen, [or] halogen atom, CN or NO₂;

R₁₃ represents a halogen atom or a haloalkyl, haloalkoxy, S(O)_qCF₃ or SF₅ group;

m, n, q and r represent, independently of each other, an integer equal to 0, 1 or 2;

X represents a trivalent nitrogen atom or a radical C-R₁₂, the other three valencies of the carbon atom forming part of the aromatic ring;

with the proviso that, when R₁ is methyl, either R₃ is haloalkyl, R₄ is NH₂, R₁₁ is Cl, R₁₃ is CF₃ and X is N; or R₂ is 4,5-dicyanoimidazol-2-yl, R₄ is Cl, R₁₁ is [CL] CL, R₁₃ is CF₃, and X is C-Cl.

Claims 22-38, and 40-47, line 1 of each, please change "Method" to --The method--.

Claim 11, lines 2-3, please delete "~~chosen among the group consisting of~~"

Claim 11, lines 5-6, please delete "~~with n=0 and R₃ is CF₃, and n=1 and R₃ is ethyl.~~"

Claim 43, lines 102, please delete "~~long-lasting~~".

Claim 48, line 1, please change "Anti-flea and anti-tick device" to --The collar--.; and

"device" to --collar--.

Claims 50-52, line 1 of each, please change "Method" to --The method--; and "49" to --53--.

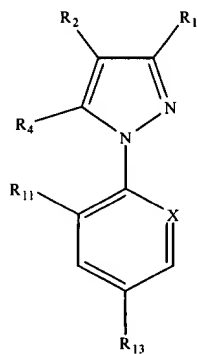
Claim 50, line 1, claim 51, line 2, and claim 52, line 2, please change "external device" to --collar--.

Kindly cancel claim 49, without prejudice, admission, surrender of subject matter, or any intention of creating any estoppel as to equivalents.

Please add the following new claims:

--53. The method of claim 21 wherein the pet is a cat or dog.

54. A method for distributing an active agent over a pet's body and/or in sebaceous glands of the pet and thereby control fleas and ticks on or eliminate fleas and ticks from the pet to ensure more than six months of efficacy of greater than 95% against fleas, as determined in a test providing the reinfestation of the pet with 100 ± 10 fleas, and more than three months of efficacy of greater than 90% against ticks, as determined in a test providing the reinfestation of the pet with 50 ± 3 ticks, comprising attaching to the pet a collar having a matrix into which is incorporated from 0.1 to 40% by weight, relative to the collar, of the active agent against fleas and ticks, this active agent comprising at least one compound corresponding to formula I below



in which:

R_1 is a CN or methyl or a halogen atom;

R_2 is $S(O)_nR_3$ or 4,5-dicyanoimidazol-2-yl or haloalkyl;

R_3 is alkyl or haloalkyl;

R_4 represents a hydrogen or halogen atom; or a radical NR_5R_6 , $S(O)_mR_7$, $C(O)R_7$ or $C(O)OR_7$, alkyl, haloalkyl or OR_8 or a radical $N=C(R_9)(R_{10})$;

R_5 and R_6 independently represent a hydrogen atom or an alkyl, haloalkyl, $C(O)$ alkyl or $S(O)_rCF_3$ radical; or R_5 and R_6 may together form a divalent alkylene radical which may be interrupted with one or two divalent hetero atoms selected from the group consisting of oxygen and sulphur;

R_7 represents an alkyl or haloalkyl radical;

R_8 represents an alkyl or haloalkyl radical or a hydrogen atom;

R_9 represents an alkyl radical or a hydrogen atom;

R_{10} represents a phenyl or heteroaryl group optionally substituted with one or more halogen atoms or moieties selected from the group consisting of OH, -O-alkyl, -S-alkyl, cyano and alkyl;

R_{11} and R_{12} represent, independently of each other, a hydrogen, halogen atom, CN or NO_2 ;

R_{13} represents a halogen atom or a haloalkyl, haloalkoxy, $S(O)_qCF_3$ or SF_5 group;

m , n , q and r represent, independently of each other, an integer equal to 0, 1 or 2;

X represents a trivalent nitrogen atom or a radical $C-R_{12}$, the other three valencies of the carbon atom forming part of the aromatic ring;

with the proviso that, when R_1 is methyl, either R_3 is haloalkyl, R_4 is NH_2 , R_{11} is Cl, R_{13} is CF_3 and X is N; or R_2 is 4,5-dicyanoimidazol-2-yl, R_4 is Cl, R_{11} is Cl, R_{13} is CF_3 , and X is C-Cl.

55. The method of claim 54, wherein the compound of formula (I) is such that:

R_1 is CN or methyl;

R_2 is $S(O)_nR_3$;

R_3 is alkyl or haloalkyl;

R_4 represents a hydrogen or halogen atom; or a radical NR_5R_6 , $S(O)_mR_7$, $C(O)R_7$ or $C(O)OR_7$, alkyl, haloalkyl or OR_8 or a radical $N=C(R_9)(R_{10})$;

R_5 and R_6 independently represent a hydrogen atom or an alkyl, haloalkyl, $C(O)$ alkyl or $S(O)_rCF_3$ radical; where R_5 and R_6 may together form a divalent alkylene radical which may be interrupted with one or two divalent hetero atoms selected from the group consisting of oxygen and sulphur;

R_7 represents an alkyl or haloalkyl radical;

R_8 represents an alkyl or haloalkyl radical or a hydrogen atom;

R_9 represents an alkyl radical or a hydrogen atom;

R_{10} represents a phenyl or heteroaryl group optionally substituted with one or more halogen atoms or moieties selected from the group consisting of OH, -O-alkyl, -S-alkyl, cyano and alkyl;

R_{11} and R_{12} represent, independently of each other, a hydrogen, or halogen atom;

R_{13} represents a halogen atom or a haloalkyl, haloalkoxy, $S(O)_qCF_3$ or SF_5 group;

m , n , q and r represent, independently of each other, an integer equal to 0, 1 or 2;

X represents a trivalent nitrogen atom or a radical $C-R_{12}$, the other three valencies of the carbon atom forming part of the aromatic ring;

with the proviso that, when R_1 is methyl, then R_3 is haloalkyl, R_4 is NH_2 , R_{11} is Cl, R_{13} is CF_3 and X is N.

56. The method of claim 55 wherein in the compound R_1 is CN.

57. The method of claim 55 wherein in the compound R_{13} is haloalkyl.

58. The method of claim 55 wherein in the compound R_{13} is CF_3 .

57. The method of claim 55 wherein in the compound R_2 is $S(O)_nR_3$.

58. The method of claim 57 wherein in the compound $n=1$ and R_3 is methyl, ethyl or

CF₃.

59. The method of claim 57 wherein in the compound $n=0$ and R₃ is CF₃.
60. The method of claim 55 wherein in the compound X is C-R₁₂ and is a halogen atom.
61. The method of claim 55 wherein in the compound R₁ is CN, and/or R₃ is haloalkyl, and/or R₄ is NH₂, and/or R₁₁ and R₁₂ are, independently of each other, a halogen atom, and/or R₁₃ is haloalkyl.
62. The method of claim 55 wherein the compound is 1-[2,6-Cl₂ 4-CF₃ phenyl] 3-CN 4-[SO-CF₃] 5-NH₂ pyrazole, and whose common name is Fipronil.
63. The method of claim 55 wherein the active agent is present in an amount of from 1 to 15% by weight.
64. The method of claim 63 wherein the active agent is present in an amount of from 1.25 to 10% by weight.
65. The method of claim 64 wherein the active agent is present in an amount of from 2 to 6% by weight.
66. The method of claim 65 wherein the active agent is present in an amount of from 2.5 to 5% by weight.
65. The method of claim 64 wherein the active agent is present in an amount of from 1.25 to 10% by weight.
66. The method of claim 62 wherein the active agent is present in an amount of from 1 to 15% by weight.
67. The method of claim 66 wherein the active agent is present in an amount of from 1.25 to 10% by weight.
68. The method of claim 67 wherein the active agent is present in an amount of from 2 to 6% by weight.
69. The method of claim 68 wherein the active agent is present in an amount of from 2.5 to 5% by weight.